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1/10

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SEQUENCE LISTING

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<120> Method for demonstration of a molecular event in a cell by means of
fluorescent marker proteins

<130> D20600

<140> PCT/FR2004/001678

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<150> FR 03/08 186

<151> 2003-07-04

<160> 14

<170> PatentIn version 3.2

<210> 1

<211> 195

<212> DNA

<213> Artificial sequence

<220>

<223> Probe

<220>

<221> CDS

<222> (1)..(174)

<400> 1

gaa ggt gga gga ggt tca gat gaa gtc gat tca gga gga ggt gga tct
Glu Gly Gly Gly Ser Asp Glu Val Asp Ser Gly Gly Gly Ser
1 5 10 15

48

gga ggt ggc gga tcc ttc gag ccg tcc gaa act ctg atc act acc gtt
Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
20 25 30

96

gaa tcg aac tcg agt tgg tgg act aac tgg gtt atc cct gcg atc tct
Glu Ser Asn Ser Ser Trp Trp Thr Asn Trp Val Ile Pro Ala Ile Ser
35 40 45

144

gct ctg gtt gta gcg ctg atg tac cgg cgt taatgactgc agtctagagg g
Ala Leu Val Ala Leu Met Tyr Arg Arg
50 55

195

<210> 2

<211> 58

<212> PRT

<213> Artificial sequence

<220>

<223> Probe

<400> 2

Glu Gly Gly Gly Ser Asp Glu Val 2/10 Gly Gly Gly Ser
1 5 15

Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
20 25 30

Glu Ser Asn Ser Ser Trp Trp Thr Asn Trp Val Ile Pro Ala Ile Ser
35 40 45

Ala Leu Val Val Ala Leu Met Tyr Arg Arg
50 55

<210> 3

<211> 294

<212> DNA

<213> Artificial sequence

<220>

<223> Caspase 3 probe DEVD-SNAP-25(80-136)

<220>

<221> CDS

<222> (1)...(291)

<400> 3

gaa ggt gga gga ggt tca gat gaa gtc gat tca gga gga ggt gga tct 48
Glu Gly Gly Gly Ser Asp Glu Val Asp Ser Gly Gly Gly Ser
1 5 10 15

gga ggt ggc gga tcc ttc gag ccg tcc gaa act ctg atc act acc gtt 96
Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
20 25 30

gaa tcg aac tcg agt atg gac cta gga aaa ttc tgc ggg ctt tgt gtg 144
Glu Ser Asn Ser Ser Met Asp Leu Gly Lys Phe Cys Gly Leu Cys Val
35 40 45

tgt ccc tgt aac aag ctt aaa tcc agt gat gct tac aaa aaa gcc tgg 192
Cys Pro Cys Asn Lys Leu Lys Ser Ser Asp Ala Tyr Lys Lys Ala Trp
50 55 60

ggc aat aat cag gat gga gta gtg gcc agc cag cct gcc cgt gtg gtg 240
Gly Asn Asn Gln Asp Gly Val Val Ala Ser Gln Pro Ala Arg Val Val
65 70 75 80

gat gaa cgg gag cag atg gcc atc agt ggt ggc ttc atc cgc aga cgc 288
Asp Glu Arg Glu Gln Met Ala Ile Ser Gly Gly Phe Ile Arg Arg Arg
85 90 95

gtc taa 294
Val

<210> 4

<211> 97
 <212> PRT
 <213> Artificial sequence

<220>
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<400> 4 3/10

Glu Gly Gly Gly Ser Asp Glu Val Asp Ser Gly Gly Gly Ser
 1 5 10 15

Gly Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
 20 25 30

Glu Ser Asn Ser Ser Met Asp Leu Gly Lys Phe Cys Gly Leu Cys Val
 35 40 45

Cys Pro Cys Asn Lys Leu Lys Ser Ser Asp Ala Tyr Lys Lys Ala Trp
 50 55 60

Gly Asn Asn Gln Asp Gly Val Val Ala Ser Gln Pro Ala Arg Val Val
 65 70 75 80

Asp Glu Arg Glu Gln Met Ala Ile Ser Gly Gly Phe Ile Arg Arg Arg
 85 90 95

Val

<210> 5
 <211> 294
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Caspase 8 probe IETD SNAP-25(80-136)

<220>
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 <222> (1)...(291)

<400> 5
 gaa ggt gga gga ggt tca att gaa acc gat tca gga gga ggt gga tct 48
 Glu Gly Gly Gly Ser Ile Glu Thr Asp Ser Gly Gly Gly Ser
 1 5 10 15

gga ggt ggc gga tcc ttc gag ccg tcc gaa act ctg atc act acc gtt 96
 Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
 20 25 30

gaa tcg aac tcg agt atg gac cta gga aaa ttc tgc ggg ctt tgt gtg 144
 Glu Ser Asn Ser Ser Met Asp Leu Gly Lys Phe Cys Gly Leu Cys Val
 35 40 45

tgt ccc tgt aac aag ctt aaa tcc agt gat gct tac aaa aaa gcc tgg 192
 Cys Pro Cys Asn Lys Leu Lys Ser Ser Asp Ala Tyr Lys Lys Ala Trp
 50 55 60

ggc aat aat cag gat gga gta gtg gcc agc cag cct gcc cgt gtg gtg 240

Gly Asn Asn Gln Asp Gly Val Val Ala Ser Gln Pro Ala Arg Val Val
 65 70 75 80

gat gaa cgg gag cag atg gcc atc agt ggt ggc ttc atc cgc aga cgc
 Asp Glu Arg Glu Gln Met Ala Ile Ser Gly Gly Phe Ile Arg Arg Arg
 85 90 95

288

gtc taa
 Val 4 / 10

294

<210> 6
 <211> 97
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Caspase 8 probe IETD SNAP-25(80-136)

<400> 6

Glu Gly Gly Gly Ser Ile Glu Thr Asp Ser Gly Gly Gly Ser
 1 5 10 15

Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
 20 25 30

Glu Ser Asn Ser Ser Met Asp Leu Gly Lys Phe Cys Gly Leu Cys Val
 35 40 45

Cys Pro Cys Asn Lys Leu Lys Ser Ser Asp Ala Tyr Lys Lys Ala Trp
 50 55 60

Gly Asn Asn Gln Asp Gly Val Val Ala Ser Gln Pro Ala Arg Val Val
 65 70 75 80

Asp Glu Arg Glu Gln Met Ala Ile Ser Gly Gly Phe Ile Arg Arg Arg
 85 90 95

Val

<210> 7
 <211> 960
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Caspase 3 probe DEVD-ANT-2

<220>
 <221> CDS
 <222> (1)...(957)

<400> 7

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 Glu Gly Gly Gly Ser Asp Glu Val Asp Ser Gly Gly Gly Ser
 1 5 10 15

48

gga ggt ggc gga tcc atg aca gat gcc gct gtg tcc ttc gcc aag gac

96

Gly	Gly	Gly	Gly	Ser	Met	Thr	Asp	Ala	Ala	Val	Ser	Phe	Ala	Lys	Asp	
20					25						30					
ttc	ttg	gcc	ggt	gga	gtg	gcc	gca	gcc	atc	tcc	aag	aca	gcg	gta	gca	144
Phe	Leu	Ala	Gly	Gly	Val	Ala	Ala	Ala	Ile	Ser	Lys	Thr	Ala	Val	Ala	
35					40						45					
ccc	atc	gag	agg	gtc	aag	ctg	ctg	ctg	5/10			cat	gcc	agc	aag	192
Pro	Ile	Glu	Arg	Val	Lys	Leu	Leu	Leu				His	Ala	Ser	Lys	
50					55						60					
caa	atc	acg	gca	gat	aag	caa	tac	aag	ggc	atc	ata	gac	tgc	gtg	gtt	240
Gln	Ile	Thr	Ala	Asp	Lys	Gln	Tyr	Lys	Gly	Ile	Ile	Asp	Cys	Val	Val	
65					70						75			80		
cgt	atc	ccc	aag	gaa	cag	gga	gtc	ctg	tcc	tcc	tgg	cgt	ggg	aac	ctg	288
Arg	Ile	Pro	Lys	Glu	Gln	Gly	Val	Leu	Ser	Phe	Trp	Arg	Gly	Asn	Leu	
85					90						95					
gcc	aat	gtc	atc	aga	tac	ttc	ccc	acc	cag	gct	ctc	aac	ttt	gcc	ttc	336
Ala	Asn	Val	Ile	Arg	Tyr	Phe	Pro	Thr	Gln	Ala	Leu	Asn	Phe	Ala	Phe	
100					105						110					
aaa	gat	aaa	tac	aag	cag	atc	ttt	ctg	ggt	ggt	gtg	gac	aag	agg	acc	384
Lys	Asp	Lys	Tyr	Lys	Gln	Ile	Phe	Leu	Gly	Gly	Val	Asp	Lys	Arg	Thr	
115					120						125					
cag	ttc	tgg	cgc	tac	ttt	gca	ggg	aac	ctg	gca	tca	ggt	ggt	gcc	gct	432
Gln	Phe	Trp	Arg	Tyr	Phe	Ala	Gly	Asn	Leu	Ala	Ser	Gly	Gly	Ala	Ala	
130					135						140					
ggg	gct	aca	tcc	ttg	tgc	ttt	gtg	tac	cct	ctt	gat	ttt	gcc	cgt	acc	480
Gly	Ala	Thr	Ser	Leu	Cys	Phe	Val	Tyr	Pro	Leu	Asp	Phe	Ala	Arg	Thr	
145					150						155			160		
cgt	cta	gca	gct	gat	gtg	ggc	aaa	gct	gga	gct	gaa	agg	gaa	ttc	aaa	528
Arg	Leu	Ala	Ala	Asp	Val	Gly	Lys	Ala	Gly	Ala	Glu	Arg	Glu	Phe	Lys	
165					170						175					
ggc	ctt	ggt	gac	tgc	ctg	gtt	aag	atc	tac	aaa	tct	gat	ggg	att	aag	576
Gly	Leu	Gly	Asp	Cys	Leu	Val	Lys	Ile	Tyr	Lys	Ser	Asp	Gly	Ile	Lys	
180					185						190					
ggc	ctg	tac	caa	ggc	ttt	aat	gtg	tca	gta	cag	ggc	att	atc	atc	tac	624
Gly	Leu	Tyr	Gln	Gly	Phe	Asn	Val	Ser	Val	Gln	Gly	Ile	Ile	Ile	Tyr	
195					200						205					
cga	gct	gcc	tac	ttt	ggt	atc	tat	gac	act	gca	aag	gga	atg	ctc	cca	672
Arg	Ala	Ala	Tyr	Phe	Gly	Ile	Tyr	Asp	Thr	Ala	Lys	Gly	Met	Leu	Pro	
210					215						220					
gat	ccc	aag	aat	act	cac	atc	ttc	atc	agc	tgg	atg	att	gca	cag	tct	720
Asp	Pro	Lys	Asn	Thr	His	Ile	Phe	Ile	Ser	Trp	Met	Ile	Ala	Gln	Ser	
225					230						235			240		
gtc	act	gct	gtc	gct	ggc	ctg	act	tcc	tat	cct	ttt	gac	acg	gtt	cgc	768
Val	Thr	Ala	Val	Ala	Gly	Leu	Thr	Ser	Tyr	Pro	Phe	Asp	Thr	Val	Arg	
245					250						255					
cgt	cgt	atg	atg	atg	cag	tct	gga	cgc	aaa	gga	act	gat	atc	atg	tac	816
Arg	Arg	Met	Met	Met	Gln	Ser	Gly	Arg	Lys	Gly	Thr	Asp	Ile	Met	Tyr	

260

265

270

aca ggc acg ctt gac tgc tgg cgg aag atc gcg cgc gat gaa ggg agc
 Thr Gly Thr Leu Asp Cys Trp Arg Lys Ile Ala Arg Asp Glu Gly Ser
 275 280 285

864

aag gct ttt ttc aag ggc gca tgg tcc aac ott ctc aga ggc atg ggt
 Lys Ala Phe Phe Lys Gly Ala Trp Ser 6/10 Arg Gly Met Gly
 290 295

912

ggc gcc ttt gtg ctt gtc ttg tat gat gag atc aag aaa tac aca taa
 Gly Ala Phe Val Leu Val Leu Tyr Asp Glu Ile Lys Lys Tyr Thr
 305 310 315

960

<210> 8
 <211> 319
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Caspase 3 probe DEVD-ANT-2

<400> 8

Glu Gly Gly Gly Ser Asp Glu Val Asp Ser Gly Gly Gly Ser
 1 5 10 15

Gly Gly Gly Ser Met Thr Asp Ala Ala Val Ser Phe Ala Lys Asp
 20 25 30

Phe Leu Ala Gly Gly Val Ala Ala Ala Ile Ser Lys Thr Ala Val Ala
 35 40 45

Pro Ile Glu Arg Val Lys Leu Leu Leu Gln Val Gln His Ala Ser Lys
 50 55 60

Gln Ile Thr Ala Asp Lys Gln Tyr Lys Gly Ile Ile Asp Cys Val Val
 65 70 75 80

Arg Ile Pro Lys Glu Gln Gly Val Leu Ser Phe Trp Arg Gly Asn Leu
 85 90 95

Ala Asn Val Ile Arg Tyr Phe Pro Thr Gln Ala Leu Asn Phe Ala Phe
 100 105 110

Lys Asp Lys Tyr Lys Gln Ile Phe Leu Gly Gly Val Asp Lys Arg Thr
 115 120 125

Gln Phe Trp Arg Tyr Phe Ala Gly Asn Leu Ala Ser Gly Gly Ala Ala
 130 135 140

Gly Ala Thr Ser Leu Cys Phe Val Tyr Pro Leu Asp Phe Ala Arg Thr
 145 150 155 160

Arg Leu Ala Ala Asp Val Gly Lys Ala Gly Ala Glu Arg Glu Phe Lys
 165 170 175

Gly Leu Gly Asp Cys Leu Val Lys Ile Tyr Lys Ser Asp Gly Ile Lys
 180 185 190

Gly Leu Tyr Gln Gly Phe Asn Val Ser Val Gln Gly Ile Ile Ile Tyr
 195 200 205

Arg Ala Ala Tyr Phe Gly Ile Tyr Asp Thr Ala Lys Gly Met Leu Pro
 210 215 220

Asp Pro Lys Asn Thr His Ile Phe Ile Ser Thr Met Ile Ala Gln Ser
 225 230 7/10 240

Val Thr Ala Val Ala Gly Leu Thr Ser Tyr Pro Phe Asp Thr Val Arg
 245 250 255

Arg Arg Met Met Gln Ser Gly Arg Lys Gly Thr Asp Ile Met Tyr
 260 265 270

Thr Gly Thr Leu Asp Cys Trp Arg Lys Ile Ala Arg Asp Glu Gly Ser
 275 280 285

Lys Ala Phe Phe Lys Gly Ala Trp Ser Asn Val Leu Arg Gly Met Gly
 290 295 300

Gly Ala Phe Val Leu Val Leu Tyr Asp Glu Ile Lys Lys Tyr Thr
 305 310 315

<210> 9

<211> 411

<212> DNA

<213> Artificial sequence

<220>

<223> Caspase 3 probe H2B-DEVD

<220>

<221> CDS

<222> (1)...(411)

<400> 9

atg cca gag cca gcg aag tct gct ccc gcc ccg aaa aag ggc tcc aag 48
 Met Pro Glu Pro Ala Lys Ser Ala Pro Ala Pro Lys Lys Gly Ser Lys
 1 5 10 15

aag ggc gtg act aag ggc cag aag aaa ggc ggc aag aag cgc aag cgc 96
 Lys Ala Val Thr Lys Ala Gln Lys Lys Gly Gly Lys Lys Arg Lys Arg
 20 25 30

agc cgc aag gag agc tat tcc atc tat gtg tac aag gtt ctg aag cag 144
 Ser Arg Lys Glu Ser Tyr Ser Ile Tyr Val Tyr Lys Val Leu Lys Gln
 35 40 45

gtc cac cct gac acc ggc att tcc tcc aag gcc atg ggc atc atg aat 192
 Val His Pro Asp Thr Gly Ile Ser Ser Lys Ala Met Gly Ile Met Asn
 50 55 60

tcg ttt gtg aac gac att ttc gag cgc atc gca ggt gag gct tcc cgc 240
 Ser Phe Val Asn Asp Ile Phe Glu Arg Ile Ala Gly Glu Ala Ser Arg
 65 70 75 80

ctg gcg cat tac aac aag cgc tcg acc atc acc tcc agg gag atc cag 288
 Leu Ala His Tyr Asn Lys Arg Ser Thr Ile Thr Ser Arg Glu Ile Gln
 85 90 95

acg gcc gtg cgc ctg ctg cct ggg gag ttg gcc aag cac gcc gtg 336
 Thr Ala Val Arg Leu Leu Pro Gly Glu Leu Ala Lys His Ala Val
 100 105 110

tcc gag ggt act aag gcc atc acc aag tac acc agc gct aag gat cca 384
 Ser Glu Gly Thr Lys Ala Ile Thr Lys Tyr Thr Ser Ala Lys Asp Pro
 115 120 8/10 125

ccg gtc gat gaa gtc gat gcc acc atg 411
 Pro Val Asp Glu Val Asp Ala Thr Met
 130 135

<210> 10
 <211> 137
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Caspase 3 probe H2B-DEVD

<400> 10

Met Pro Glu Pro Ala Lys Ser Ala Pro Ala Pro Lys Lys Gly Ser Lys
 1 5 10 15

Lys Ala Val Thr Lys Ala Gln Lys Lys Gly Gly Lys Lys Arg Lys Arg
 20 25 30

Ser Arg Lys Glu Ser Tyr Ser Ile Tyr Val Tyr Lys Val Leu Lys Gln
 35 40 45

Val His Pro Asp Thr Gly Ile Ser Ser Lys Ala Met Gly Ile Met Asn
 50 55 60

Ser Phe Val Asn Asp Ile Phe Glu Arg Ile Ala Gly Glu Ala Ser Arg
 65 70 75 80

Leu Ala His Tyr Asn Lys Arg Ser Thr Ile Thr Ser Arg Glu Ile Gln
 85 90 95

Thr Ala Val Arg Leu Leu Leu Pro Gly Glu Leu Ala Lys His Ala Val
 100 105 110

Ser Glu Gly Thr Lys Ala Ile Thr Lys Tyr Thr Ser Ala Lys Asp Pro
 115 120 125

Pro Val Asp Glu Val Asp Ala Thr Met
 130 135

<210> 11
 <211> 414
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Caspase 2 probe H2B-VDVAD

<220>
<221> CDS
<222> (1)..(414)

<400> 11
atg cca gag cca gcg aag tct gct ccc gcc ccg aaa aag ggc tcc aag 48
Met Pro Glu Pro Ala Lys Ser Ala Pro Ala Pro Lys Lys Gly Ser Lys
1 5 9/10 15
Lys Ala Val Thr Lys Ala Gln Lys Lys Gly Gly Lys Lys Arg Lys Arg 96
20 25 30
aag gcg gtg act aag gcg cag aag aaa ggc ggc aag aag cgc aag cgc
Ser Arg Lys Glu Ser Tyr Ser Ile Tyr Val Tyr Lys Val Leu Lys Gln 144
35 40 45
agc cgc aag gag agc tat tcc atc tat gtg tac aag gtt ctg aag cag
Ser Arg Lys Glu Ser Tyr Ser Ile Tyr Val Tyr Lys Val Leu Lys Gln
35 40 45
gtc cac cct gac acc ggc att tcg tcc aag gcc atg ggc atc atg aat 192
Val His Pro Asp Thr Gly Ile Ser Ser Lys Ala Met Gly Ile Met Asn
50 55 60
tcg ttt gtg aac gac att ttc gag cgc atc gca ggt gag gct tcc cgc 240
Ser Phe Val Asn Asp Ile Phe Glu Arg Ile Ala Gly Glu Ala Ser Arg
65 70 75 80
ctg gcg cat tac aac aag cgc tcg acc atc acc tcc agg gag atc cag 288
Leu Ala His Tyr Asn Lys Arg Ser Thr Ile Thr Ser Arg Glu Ile Gln
85 90 95
acg gcc gtg cgc ctg ctg cct ggg gag ttg gcc aag cac gcc gtg 336
Thr Ala Val Arg Leu Leu Leu Pro Gly Glu Leu Ala Lys His Ala Val
100 105 110
tcc gag ggt act aag gcc atc acc aag tac acc agc gct aag gat cca 384
Ser Glu Gly Thr Lys Ala Ile Thr Lys Tyr Thr Ser Ala Lys Asp Pro
115 120 125
ccg gtc gtc gac gtc gcc gat gcc acc atg 414
Pro Val Val Asp Val Ala Asp Ala Thr Met
130 135

<210> 12
<211> 138
<212> PRT
<213> Artificial sequence

<220>
<223> Caspase 2 probe H2B-VDVAD
<400> 12

Met Pro Glu Pro Ala Lys Ser Ala Pro Ala Pro Lys Lys Gly Ser Lys 8
1 5 10 15
Lys Ala Val Thr Lys Ala Gln Lys Lys Gly Gly Lys Lys Arg Lys Arg 8
20 25 30
Ser Arg Lys Glu Ser Tyr Ser Ile Tyr Val Tyr Lys Val Leu Lys Gln 8
35 40 45

Val His Pro Asp Thr Gly Ile Ser Ser Lys Ala Met Gly Ile Met Asn
 50 55 60

Ser Phe Val Asn Asp Ile Phe Glu Arg Ile Ala Gly Glu Ala Ser Arg
 65 70 75 80

Leu Ala His Tyr Asn Lys Arg Ser Thr Ile Thr Ser Arg Glu Ile Gln
 85 10/10 95

Thr Ala Val Arg Leu Leu Leu Pro Gly Glu Leu Ala Lys His Ala Val
 100 105 110

Ser Glu Gly Thr Lys Ala Ile Thr Lys Tyr Thr Ser Ala Lys Asp Pro
 115 120 125

Pro Val Val Asp Val Ala Asp Ala Thr Met
 130 135

<210> 13

<211> 177

<212> DNA

<213> Artificial sequence

<220>

<223> Caspase 8 probe IETD-cb5RR

<220>

<221> CDS

<222> (1)..(174)

<400> 3

gaa ggt gga gga ggt tca att gaa acc gat tca gga gga ggt gga tct 48
 Glu Gly Gly Gly Ser Ile Glu Thr Asp Ser Gly Gly Ser
 1 5 10 15

gga ggt ggc gga tcc ttc gag ccg tcc gaa act ctg atc act acc gtt 96
 Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
 20 25 30

gaa tcg aac tcg agt tgg tgg act aac tgg gtt atc cct gcg atc tct 144
 Glu Ser Asn Ser Ser Trp Trp Thr Asn Trp Val Ile Pro Ala Ile Ser
 35 40 45

gct ctg gtt gta gcg ctg atg tac cgg cgt taa 177
 Ala Leu Val Val Ala Leu Met Tyr Arg Arg
 50 55

<210> 14

<211> 58

<212> PRT

<213> Artificial sequence

<220>

<223> Caspase 8 probe IETD-cb5RR

<400> 14

Glu Gly Gly Gly Gly Ser Ile Glu Thr Asp Ser Gly Gly Gly Ser
 1 5 10 15

Gly Gly Gly Ser Phe Glu Pro Ser Glu Thr Leu Ile Thr Thr Val
20 25 30

Glu Ser Asn Ser Ser Trp Trp Thr Asn Trp Val Ile Pro Ala Ile Ser
35 40 45

Ala Leu Val Val Ala Leu Met Tyr Arg Arg
50 55